Torque Specifications

Description	Nm	lb-ft
Engine mount nuts (3.8L engine)	115	85
Engine mount nuts (4.6L engine)	150	111
Front subframe lower bolts	90	66
Front subframe upper bolts	115	85
Front subframe brace bolts	41	30
Front subframe support, front and rear outboard bolts (convertible vehicles only)	63	46
Front subframe support, rear inboard bolts (convertible vehicles only)	30	22
HEGO connector bracket nut	47	35
Rear subframe bolts	103	76
Transmission support insulator to transmission extension housing bolts	70	52
Transmission support insulator-to-rear engine support nut	70	52
Transmission support crossmember to transmission support member through bolts and nuts	63	46

Frame Assembly

Underbody misalignment can affect front and rear wheel alignment, the operation of the suspension parts and drivetrain operation. Window glass cracks, door and window opening concerns, and air or water leaks at the doors are often caused by improperly tightened bolts and body misalignment.

Every structural member and outer panel is designed to offer the maximum protection in the event of a collision.

Body Misalignment Check

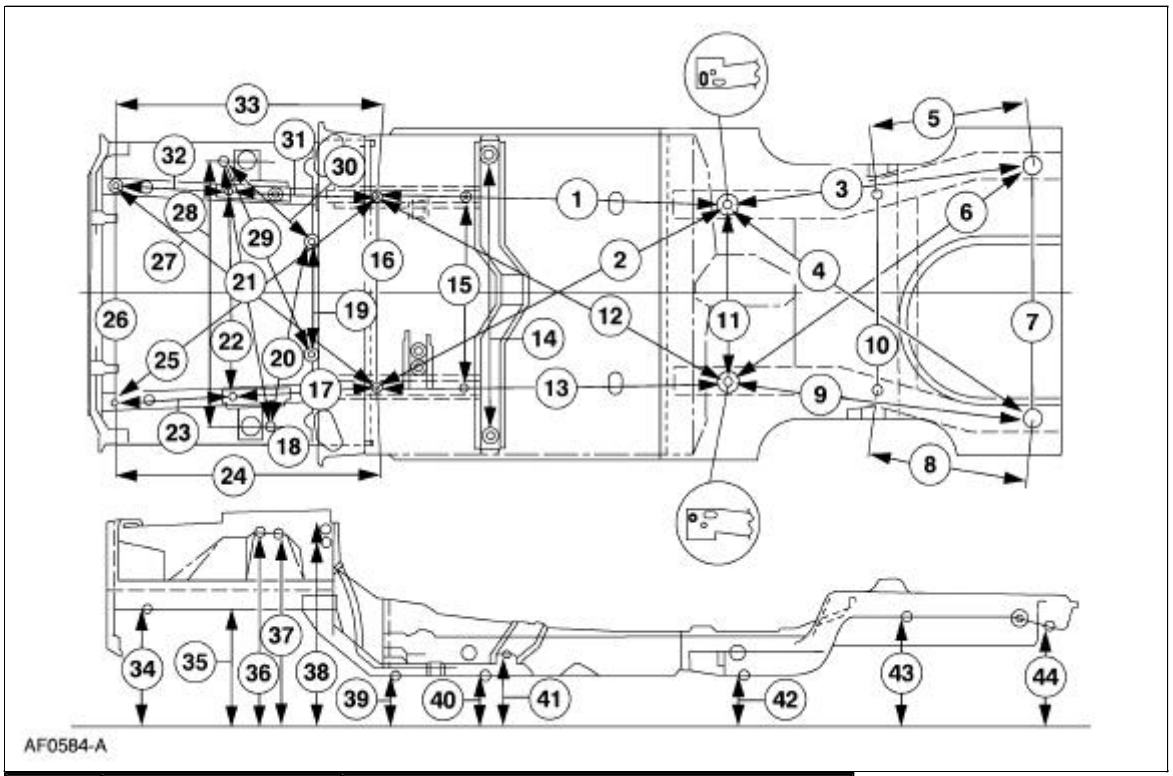
1. **CAUTION: Do not attempt to correct any serious misalignment with one pulling/pushing operation. Damage to structure may occur.**

   NOTE: All body alignment measurements are made without trim and from metal to metal.

   To check the body alignment, take two opposite diagonal measurements between the front, center or rear pillars. Take the measurements between reference points, such as crease lines or weld joints which are diagonally opposite each other on the two pillars being measured.

Underbody Misalignment Check

Underbody Dimensions



Item	Part Number	Description
1	—	1390.65 mm (54.750 in)
2	—	1535.75 mm (61.43 in)
3	—	1123.25 mm (44.93 in)
4	—	1450.97 mm (57.125 in)
5	—	420.68 mm (16.5622 in)
6	—	1450.97 mm (57.125 in)
7	—	1065.28 mm (41.9400 in)
8	—	420.68 mm (16.5622 in)
9	—	1141.41 mm (44.9373 in)
10	—	857.00 mm (33.740 in)
11	—	751.84 mm (29.600 in)
12	—	1670.05 mm (62.750 in)
13	—	1352.55 mm (53.250 in)
14	—	1212.00 mm (47.716 in)
15	—	802.40 mm (31.5905 in)
16	—	802.40 mm (31.5905 in)
17	—	717.55 mm (28.250 in)

18	—	325.43 mm (12.8122 in)
19	—	520.70 mm (20.500 in)
20	—	792.16 mm (31.1873 in)
21	—	992.18 mm (39.0621 in)
22	—	863.60 mm (34.00 in)
23	—	522.28 mm (20.5622 in)
24	—	1219.20 mm (48.00 in)
25	—	1454.15 mm (57.250)
26	—	893.76 mm (35.1873 in)
27	—	1484.31 mm (58.4373 in)
28	—	792.16 mm (38.1873 in)
29	—	819.15 mm (32.250 in)
30	—	404.81 mm (15.9374 in)
31	—	684.21 mm (26.9374 in)
32	—	522.28 mm (20.5622 in)
33	—	1181.10 mm (46.500 in)
34	—	385.76 mm (15.1874 in)
35	—	385.76 mm (15.1874 in)
36	—	746.12 mm (29.375 in)
37	—	713.83 mm (28.1035 in)
38	—	RH 758.82 mm RH (29.875 in)
38	—	LH 755.65 mm LH (29.750 in)
39	—	114.30 mm (4.500 in)
40	—	127.00 mm (5.00 in)
41	—	152.40 mm (6.00 in)
42	—	96.93 mm (3.8122 in)
43	—	373.06 mm (14.6874 in)
44	—	369.88 mm (14.5622 in)

1. Underbody dimensions tolerances are ± 3.175 mm (0.125 in). Reference dimensions are not controlled dimensions. Reference points are ± 4.76 mm (0.1875 in). All underbody dimensions are detailed to the centerline of existing holes in the underbody assembly.

2. Inspect all unibody structural members for cracks, twists or bends. Check all welded connections for cracks. Inspect support brackets for looseness.

Front Subframe —3.8L Engine

Special Tool(s)

ST2333-A	3-Bar Engine Support Kit 303-F072
ST2375-A	Lifting Bracket Set, Engine 303-D095 (D94L-6001-A) (014-00792)

Removal and Installation

All vehicles

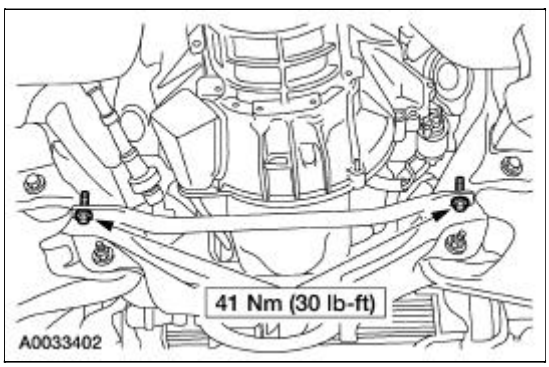
1. Remove the steering gear. For additional information, refer to Section 211-02 .
2. Remove the lower control arms. For additional information, refer to Section 204-01 .

Vehicles with convertible top

3. Remove the front subframe support. For additional information, refer to Subframe Support—Convertible in this section.

Vehicles with hard top

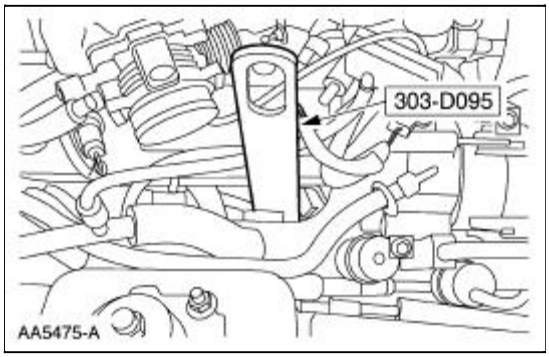
4. Remove the front subframe brace.
   - Remove the bolts.



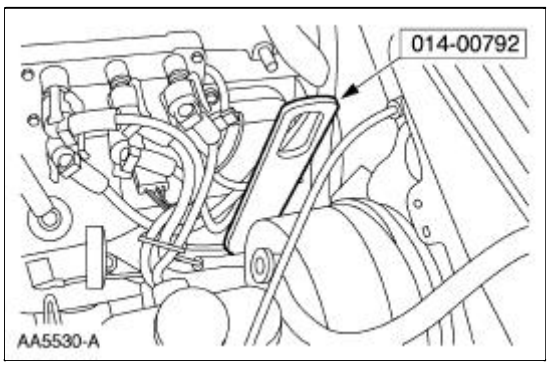
All vehicles

5. Lower the vehicle.

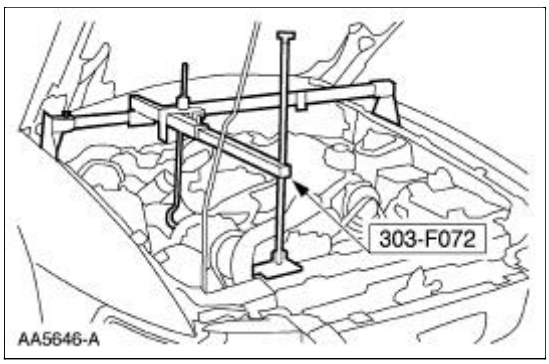
6. Install the special tool.



7. Install the special tool.

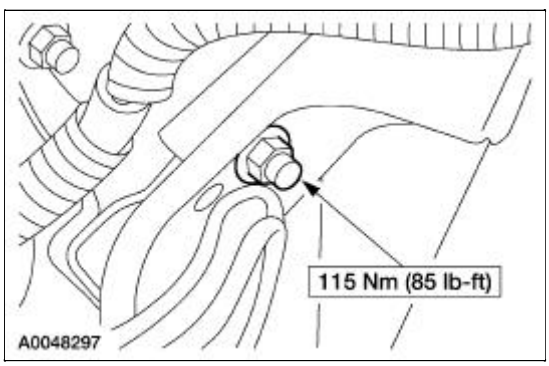


8. Install the special tool.

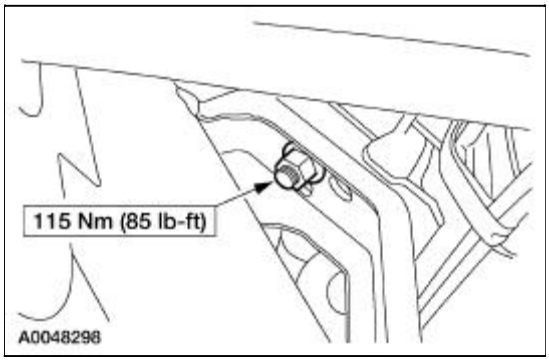


9. Raise and support the vehicle.

10. Remove the LH engine mount nut.

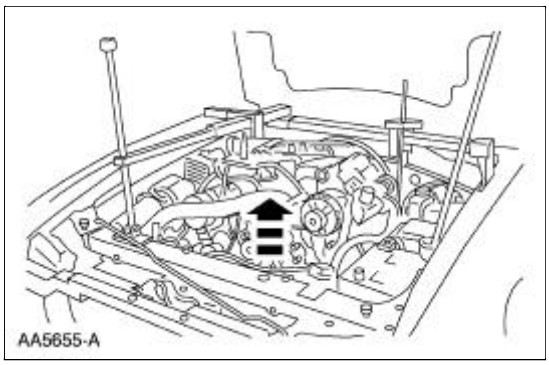


11. Remove the RH engine mount nut.



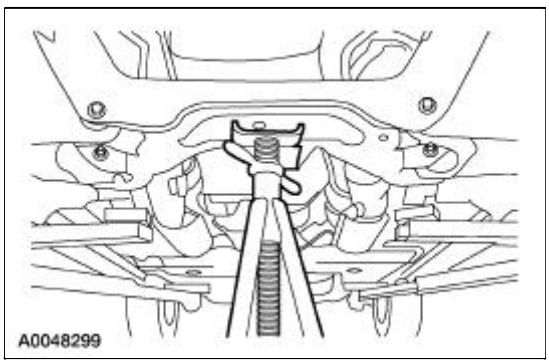
12. Lower the vehicle.

13. Using the special tool, raise and support the engine.

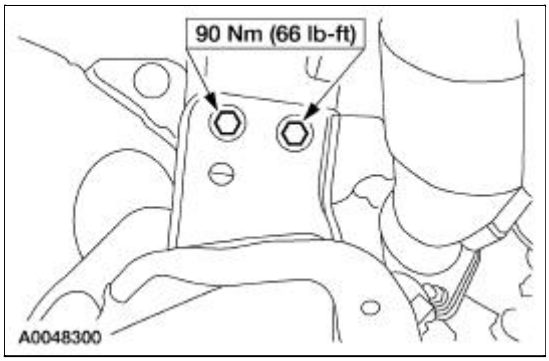


14. Raise the vehicle.

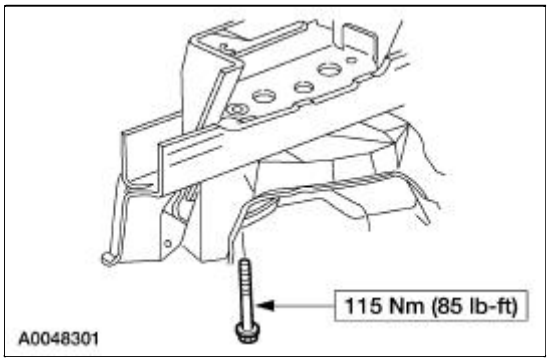
15. Support the front subframe.



16. Remove the four front subframe lower bolts.

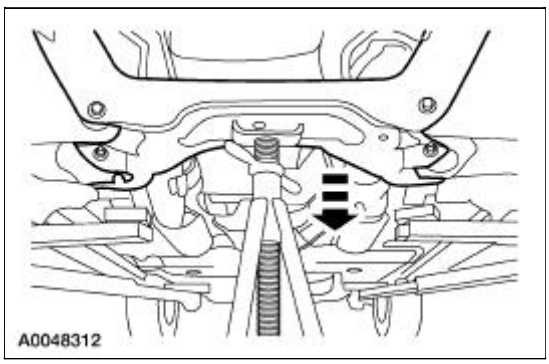


17. Remove the four front subframe upper bolts.



18. **NOTE:** Two technicians are needed to carry out this step.

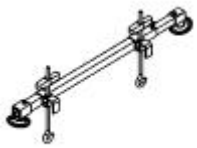
    Lower and remove the front subframe.



19. To install, reverse the removal procedure.

Front Subframe —4.6L (2V) Engine

Special Tool(s)

 ST2363-A	Support Bar, Engine 303-290-A
ST1603-A	Lifting Bracket, Engine 303-D088 (D93P-6001-A2)

Removal and Installation

All vehicles

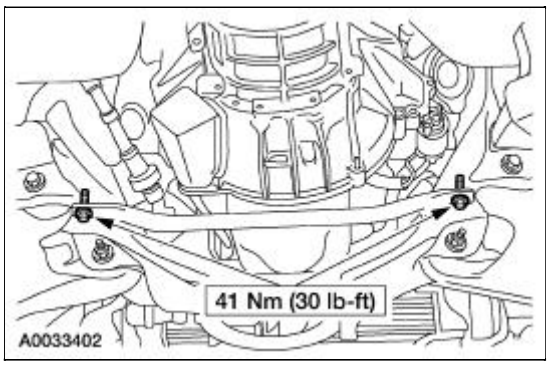
1. Remove the steering gear. For additional information, refer to Section 211-02 .
2. Remove the lower control arms. For additional information, refer to Section 204-01 .

Vehicles with convertible top

3. Remove the front subframe support. For additional information, refer to Subframe Support — Convertible in this section

Vehicles with hard top

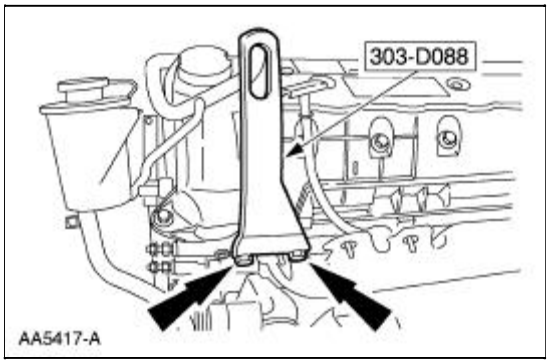
4. Remove the front subframe brace.
   - Remove the bolts



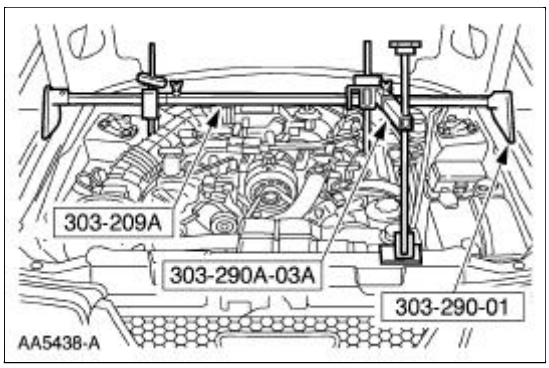
All vehicles

5. Lower the vehicle.

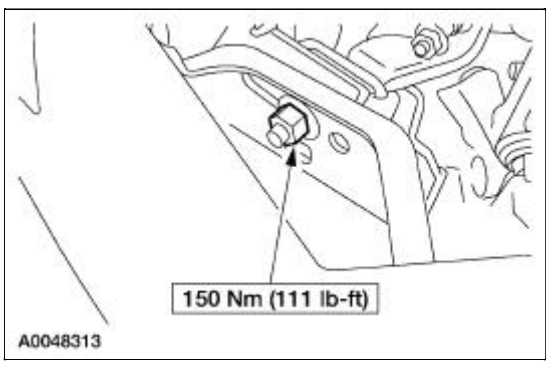
6. Install the special tool.



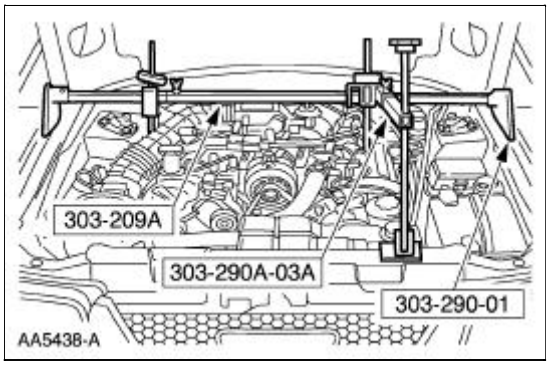
7. Install the special tool.



8. Raise and support the vehicle.
9. Remove the two engine mount nuts.

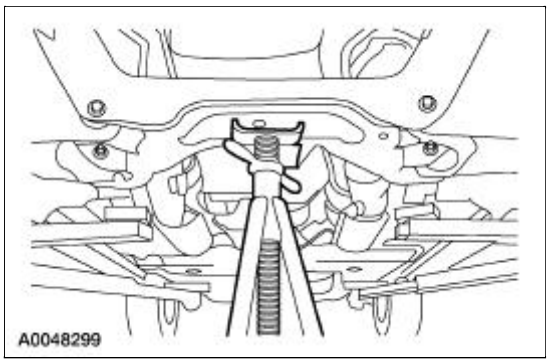


10. Lower the vehicle.
11. Using the special tool, raise and support the engine.

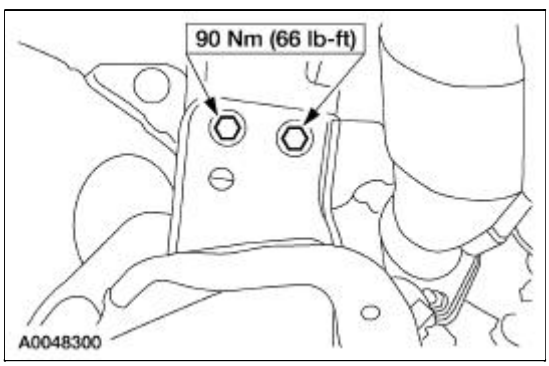


12. Raise the vehicle.

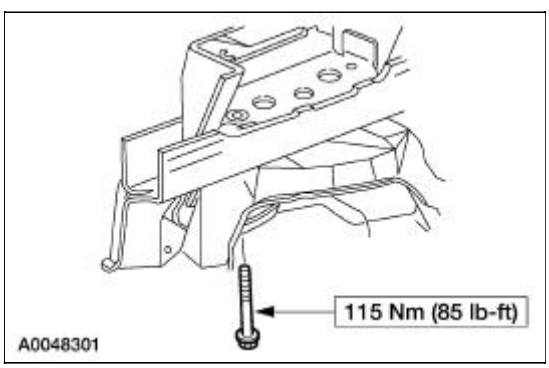
13. Support the front subframe.



14. Remove the four front subframe lower bolts.

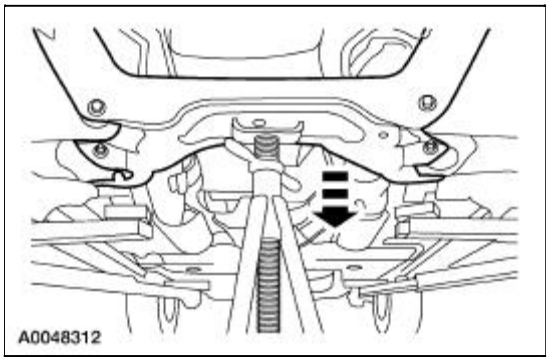


15. Remove the four front subframe upper bolts.



16. **NOTE:** Two technicians are needed to carry out this step.

Lower and remove the front subframe.



Front Subframe —4.6L (4V) Engine

Special Tool(s)

ST2333-A	3-Bar Engine Support Kit 303-F072
ST2375-A	Lifting Bracket, Engine 303-D088 (D93P-6001-A2)

Removal and Installation

All vehicles

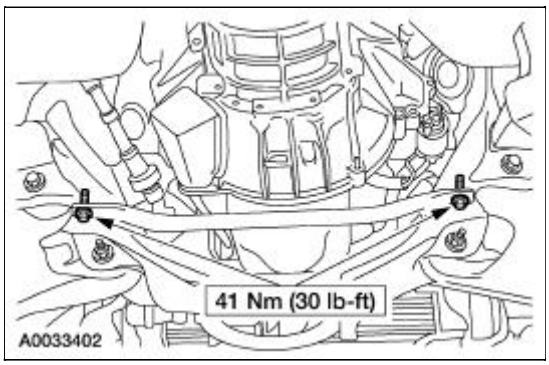
1. Remove the steering gear. For additional information, refer to Section 211-02 .
2. Remove the lower control arms. For additional information, refer to Section 204-01 .

Vehicles with convertible top

3. Remove the front subframe support. For additional information, refer to Subframe Support—Convertible in this section.

Vehicles with hard top

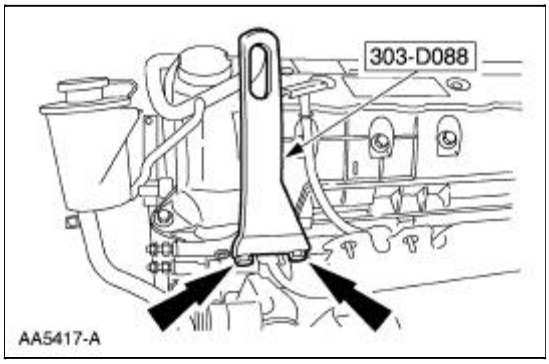
4. Remove the front subframe brace.
   - Remove the bolts.



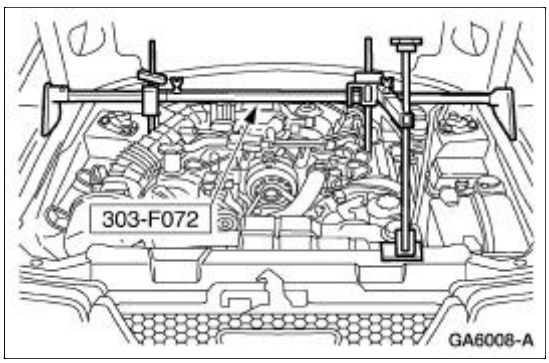
All vehicles

5. Lower the vehicle.

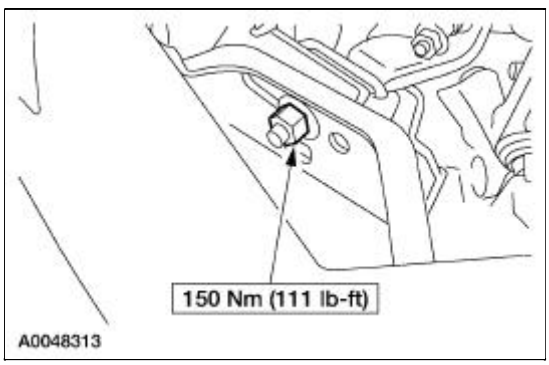
6. Install the special tool.



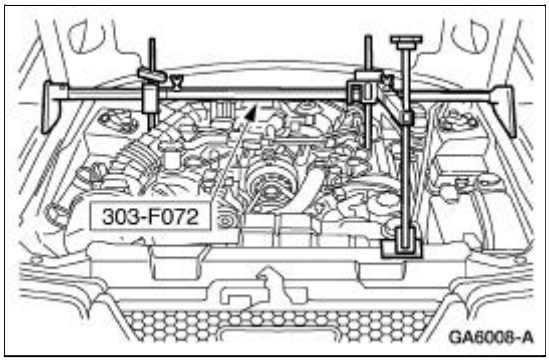
7. Install the special tool.



8. Raise and support the vehicle.
9. Remove the two engine mount nuts.

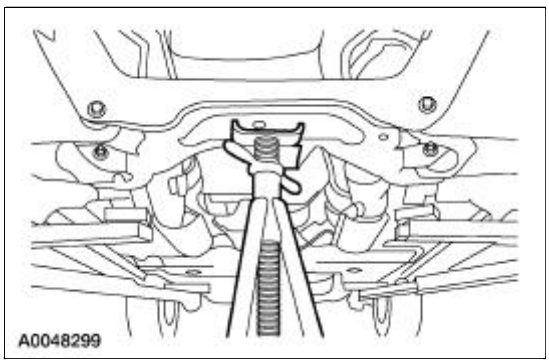


10. Lower the vehicle.
11. Using the special tool, raise and support the engine.

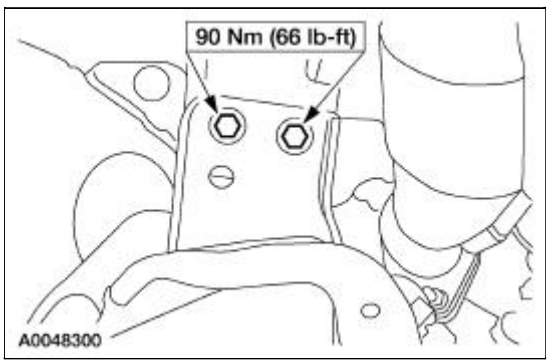


12. Raise the vehicle.

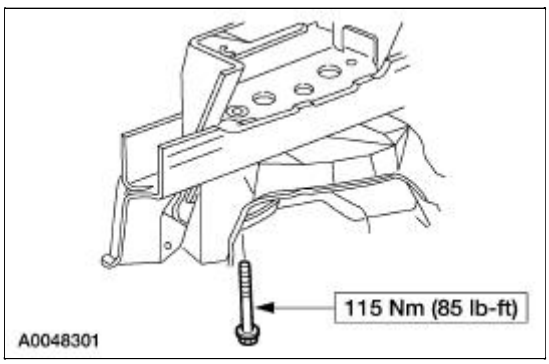
13. Support the front subframe.



14. Remove the four front subframe lower bolts.

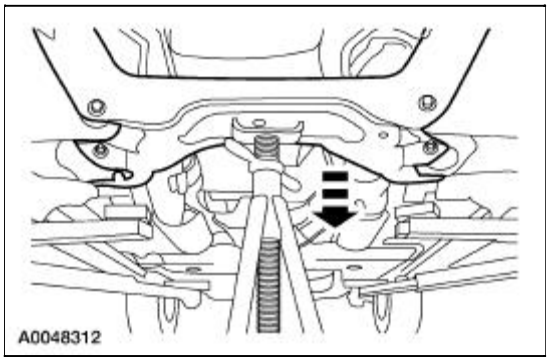


15. Remove the four front subframe upper bolts.



16. **NOTE:** Two technicians are needed to carry out this step.

Lower and remove the front subframe.



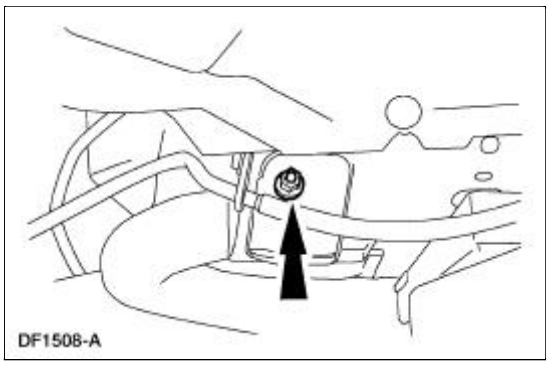
17. To install, reverse the removal procedure.

Rear Subframe

Removal and Installation

CAUTION: Suspension fasteners are critical parts because they affect performance of vital components and systems and their failure can result in major service expense. A new part with the same part number must be installed if installation becomes necessary. Torque values must be used as specified during reassembly.

1. Remove the rear coil springs. For additional information, refer to Section 204-02 .
2. Using the special tool, raise the rear subframe.
3. Remove and discard the rear subframe front bolts.



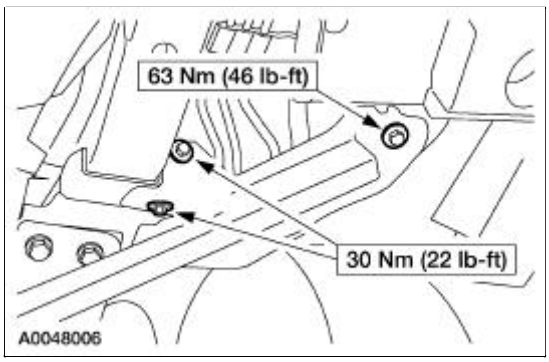
4. Using the special tool, lower and remove the rear subframe.
5. **NOTE:** Discard the old bolts and nuts. Do not reuse, install new bolts and nuts.

   To install, reverse the removal procedure.

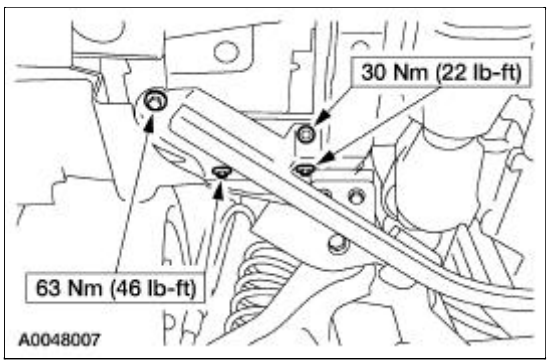
Subframe Support —Convertible

Removal and Installation

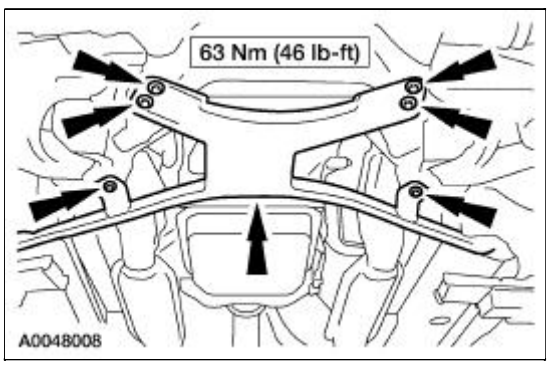
1. Raise and support the vehicle. For additional information, refer to Section 100-02 .
2. Support the front subframe support.
3. Remove the RH front subframe support bolts.



4. Remove the LH front subframe support bolts.



5. Remove the front subframe support.
   - Remove the bolts and lower the front subframe support.



6. To install, reverse the removal procedure.